

From the INTERNATIONAL SEARCHING AUTHORITY

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PCT

NOTIFICATION OF TRANSMITTAL OF  
THE INTERNATIONAL SEARCH REPORT  
OR THE DECLARATION

(PCT Rule 44.1)

Applicant's or agent's file reference <b>100827.0008PCT</b>		Date of Mailing (day/month/year) <b>01 JUL 2003</b>
International application No. PCT/US03/01587	International filing date (day/month/year) 16 JANUARY 2003	
Applicant MCGANN, BENSON		

1. ☒ The applicant is hereby notified that the international search report has been established and is transmitted herewith.

**Filing of amendments and statement under Article 19:**

The applicant is entitled, if he so wishes, to amend the claims of the international application (see Rule 46):

**When?** The time limit for filing such amendments is normally two months from the date of transmittal of the international search report.

**Where?** Directly to the International Bureau of WIPO, 34 chemin des Colombettes  
1211 Geneva 20, Switzerland, Facsimile No.: (41-22) 740.14.35

For more detailed instructions, see the notes on the accompanying sheet.

2. ☐ The applicant is hereby notified that no international search report will be established and that the declaration under Article 17(2)(a) to that effect is transmitted herewith.

3. ☐ With regard to the protest against payment of (an) additional fee(s) under Rule 40.2, the applicant is notified that:

☐ the protest together with the decision thereon has been transmitted to the International Bureau together with the applicant's request to forward the texts of both the protest and the decision thereon to the designated Offices.

☐ no decision has been made yet on the protest; the applicant will be notified as soon as a decision is made.

4. **Reminders**

Shortly after 18 months from the priority date, the international application will be published by the International Bureau. If the applicant wishes to avoid or postpone publication, a notice of withdrawal of the international application, or of the priority claim, must reach the International Bureau as provided in rules 90 bis.1 and 90 bis.3, respectively, before the completion of the technical preparations for international publication.

Within 19 months from the priority date, but only in respect of some designated Offices, a demand for international preliminary examination must be filed if the applicant wishes to postpone the entry into the national phase until 30 months from the priority date (in some Offices even later); otherwise the applicant must, within 20 months from the priority date, perform the prescribed acts for entry into the national phase before those designated Offices.

In respect of other designated Offices, the time limit of 30 months (or later) will apply even if no demand is filed within 19 months.

See the Annex to Form PCT/IB/301 and, for details about the applicable time limits, Office by Office, see the *PCT Applicant's Guide*, Volume II, National Chapters and the WIPO Internet site.

Name and mailing address of the ISA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231	Authorized officer TODD E. MANAHAN <i>Diane Smith</i>
Facsimile No. (703) 305-3230	Telephone No. (703) 305-3208

## PATENT COOPERATION TREATY

## PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 827.0008PCT	FOR FURTHER ACTION	see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.
International application No. PCT/US03/01587	International filing date (day/month/year) 16 JANUARY 2003	(Earliest) Priority Date (day/month/year) 16 JANUARY 2002
Applicant MCGANN, BENSON		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 5 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

## 1. Basis of the report

a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing:

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

2. ☒ **Certain claims were found unsearchable** (See Box I).

3. ☒ **Unity of invention is lacking** (See Box II).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☐ the text is approved as submitted by the applicant.

☒ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No. 33

☒ as suggested by the applicant.

☐ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

☐ None of the figures.

**Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)**

This international report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☒ Claims Nos.: 64 and 65  
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:  
  
these claims do not clearly define the matter for which protection is sought
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

**Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)**

This International Searching Authority found multiple inventions in this international application, as follows:

Please See Extra Sheet.

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:  
1-5

**Remark on Protest**

- ☐ The additional search fees were accompanied by the applicant's protest.  
☐ No protest accompanied the payment of additional search fees.

## Box III TEXT OF THE ABSTRACT (Continuation of item 5 of the first sheet)

The technical features mentioned in the abstract do not include a reference sign between parentheses (PCT Rule 8.1(d)).

## NEW ABSTRACT

Improved orthodontic methods and apparatus are described that reduce the level of skill required for successful treatment, reduce the amount of orthodontist's time required for successful treatment, and have improved retention. Customized individual orthodontic treatment is possible utilizing brackets (92420), bands and archwires (1200) specifically designed for each malocclusion. Computer software is used to organize hundreds of issues and appliance variations in an automated or semi-automated diagnosis and treatment system. Related tools include a bracket holder (500) having a handle (550), a pair of gripping members (520,520') and a gripping member position and orientation indicator (600) and a bracket vertical position indicator (700).

## BOX II. OBSERVATIONS WHERE UNITY OF INVENTION WAS LACKING

This ISA found multiple inventions as follows:

This application contains the following inventions or groups of inventions which are not so linked as to form a single inventive concept under PCT Rule 13.1. In order for all inventions to be searched, the appropriate additional search fees must be paid.

Group I, claim(s) 1-5, drawn to a computer assisted orthodontic treatment method.

Group II, claim(s) 6-22, drawn to an orthodontic bracket holder and method of use.

Group III, claim(s) 23 and 24, drawn to a method of coupling a plurality of brackets to a plurality of teeth.

Group IV, claim(s) 25-29, drawn to a method of selecting an archwire.

Group V, claim(s) 30, drawn to an archwire selection aid.

Group VI, claim(s) 31-39, drawn to an automated system for selecting an archwire.

Group VII, claim(s) 40, drawn to an automated system for ordering an archwire.

Group VIII, claim(s) 41-50, drawn to an adaptive orthodontic treatment method.

Group IX, claim(s) 51-58, drawn to an orthodontic bracket.

Group X, claim(s) 59 and 60, drawn to an orthodontic treatment method using overcorrection.

Group XI, claim(s) 61-63, drawn to a bracket assembly.

The inventions listed as Groups I-XI do not relate to a single inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:

Group I, the special technical feature is the use of a computer system to reposition a tooth.

Group II, the special technical feature is a bracket holder with a gripping member position and orientation indicator.

Group III, the special technical feature is using a plurality of bracket holders to attach a plurality of brackets to a plurality of teeth.

Group IV, the special technical feature is selecting an archwire based upon a representation of the patient's inner arch curve.

Group V, the special technical feature is an archwire selection aid bearing one or more representations of archwires.

Group VI, the special technical feature is an automated system including a recorder for obtaining a patient internal arch curve.

Group VII, the special technical feature is an automated ordering system.

Group VIII, the special technical feature is an orthodontic treatment in which the original treatment plan is subsequently modified.

Group IX, the special technical feature is an orthodontic bracket having a visual indicator.

Group X, the special technical feature is an orthodontic treatment method wherein the tooth orientation is overcorrected.

Group XI, the special technical feature is a bracket assembly having an archwire slot modifying member.

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/US03/01587

## A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : A61C 3/00

US CL : 433/24, 3; 364/+13.28

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 433/2, 3, 4, 24; 364/+13.28

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	✓ US 5,368,478 A (ANDREIKO et al) 29 November 1994, see entire document.	1-5
X, E	✓ US 6,540,512 B1 (SACHDEVA et al.) 01 April 2003, see entire document.	1-5

☐

Further documents are listed in the continuation of Box C.

☐

See patent family annex.

* Special categories of cited documents:	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A" document defining the general state of the art which is not considered to be of particular relevance	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"E" earlier document published on or after the international filing date	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"A" document member of the same patent family
"O" document referring to an oral disclosure, use, exhibition or other means	
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search

24 APRIL 2003

Date of mailing of the international search report

01 JUL 2003

Name and mailing address of the ISA/US  
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